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California GARDEN

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GERANIUM SHOWS

SAN DIEGO—JUNE 1-2

—:—

Exhibits

Collection Geraniums
Collection Pelargoniums
Collection Ivy Geraniums
Dish or Bowl of Geraniums
Basket of Geraniums
Vase of Geraniums
Dish or Bowl of Pelargoniums
Basket of Pelargoniums
Vase of Pelargoniums



LA JOLLA—JUNE 9

Silas B. Osborn will speak on
Pelargoniums in connection
with exhibition.

JUNE
1940

31711

Pelargoniums
Silas B. Osborn

Nocturnal March
Katherine V. Lewis

The Oriole
Frank Forrest Gander

Gleanings
Ida Louise Bryant

Problems of the Soil
Rob't. R. McLean

Ministration of Beauty
Byrol Carter

Plant Hormones
A. H. Feters

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Pelargoniums Are Garden Geraniums . . .

By SILAS B. OSBORN

The revival of interest in the so called geraniums indicates a need for some clarification in nomenclature of these plants. Actually very few gardeners would recognize a true geranium if they saw one, although several species of the genus geranium are native to America. The true geraniums are herbaceous plants mostly perennial, sometimes beautiful and rarely annual. The writer is growing a perennial species from north Asia, *Geranium grandiflorum*. It was sold as a blue geranium which is essentially correct, that is, it is a true geranium, but the color is actually lilac-purple. It has attractive five-petaled blossoms on stalks about eighteen to twenty inches tall, the flowers being well above the foliage. It is an interesting and useful addition for a perennial border as it blooms throughout the spring, summer and early fall if the faded flowers are cut off as they wither.

The plants we call geraniums are all pelargoniums which are plants with mostly woody or half-woody stems which do not die down in the colder or winter months, unless seriously injured by frost, in which case they are often completely killed. There is no more reason to call these pelargoniums geraniums than there is to call apples roses or pears roses. The situation is identical; apples are in the plant family Rosaceae; the genus *Malus*

—pears are in the plant family Rosaceae, the genus *Pyrus*. Roses, however, are in the plant family Rosaceae and the genus *Rosa*. Pelargoniums are in the plant family Geraniaceae, the genus *Pelargonium*.

Many of our garden pelargoniums are horticultural hybrids. The common so called bedding geranium is *Pelargonium hortorum*—it is also called the fish-geranium which is actually *Pelargonium inquinans* and sometimes *Pelargonium zonale*. Actually *Pelargonium hortorum* is a horticultural species embracing the hybrids of both, *P. inquinans* and *P. zonale*. The Martha Washington geranium or pelargonium as the name is often applied, is the species *P. domesticum*. Many of the varieties were derived from hybrids of *P. domesticum* and other species, which accounts in some degree for the wide variation in size, foliage, color and habit of growth so marked in the hundred or more named varieties. There has been a great advance in varieties and types in this group in recent years. The ivy-leaf type is *P. peltatum*; the so called apple or nutmeg geranium is *P. odoratissimum* or a closely allied species *P. fragrans*; the lemon scented type, *P. crispum* or *P. limoneum*; the so called mint or peppermint geranium, *P. tomentosum*; the so called rose geranium, *P. graveolens* or *P.*

radula or hybrids of the two. A species somewhat similar to the Martha Washington type is *P. quercifolium*, often called the oak-leaf geranium. The flowers are small but their color is bright scarlet with darker eyes. The so called pine scented or balsam geranium with lilac-rose or purple flowers and leaves with long deeply toothed lobes is *P. denticulatum*; and lastly the so called cactus geranium with spiny stems, tuberous roots and dainty white to lavender flowers with dark eyes on the upper petals, is *P. echinatum*.

The show type of pelargonium or Martha Washington type, *P. domesticum*, is justly coming into wide favor now in frostless sections of California. Therefore it is of these that this article will deal so far as cultural care and selection of varieties is concerned.

Their blooming season commences in late March outdoors in San Diego and with the newer and better varieties extends till well into the fall. In the open ground they usually bloom freer and longer, but have great value as pot plants for patios. When well grown they exceed in usefulness, spectacular color and ease of culture some of the more aristocratic members of the plant kingdom notably azaleas which also seem to be coming strongly into vogue. The show pelargoniums come into bloom a

little later than azaleas, however, and therefore provide continuity of bloom. They seem to thrive best where they receive plenty of sun near the coast, further inland some varieties fade out from their true colors if located where the hot midday sun strikes them. They do not like dense shade, however, and bloom poorly and are inclined to grow straggly and leggy in very shady locations. They like a well drained but strong soil and plenty of moisture. They should not be fertilized heavily in the open ground as they tend to develop foliage and stems at the expense of flowers if over fertilized. In pots it is important that a good composted soil be used in which may be incorporated a little bone meal or super-phosphate. When the flower buds form in the spring a light application of a complete fertilizer 4-12-4 is beneficial.

The really important point in fertilization and care is to keep the plants in a healthy growth development without forcing them into excessive foliage and stem development. Regular pinching out of terminal growths in the very early spring aids in developing a shapely compact plant. This is the point that too many gardeners neglect. The pots should be well filled with roots before shifting to larger pots, but they should not be permitted to become pot bound. If plants are skillfully cared for in pots, they may be developed into large specimens but in general it is more satisfactory to keep additional young plants for replacement.

They are easily propagated from terminal growths with short internodes five to seven inches long of half ripened wood. After the blooming season or in early fall is the best time to take cuttings, but the writer has successfully started cuttings at various times of the year. The cuttings, if inserted in coarse sand should root in five or six weeks in the open. After rooting they may be potted in 2½" or 3" pots and shifted into larger pots as the pots fill up with roots. They are poor house plants due to their extreme sensitivity to lack of light and oxygen.

Plants should be constantly watched for aphids, mealybugs, whiteflies and black scale as these insect pests soon disfigure the foliage of the plants. A sharp syringing off with plain water will check these insects in their initial stage of development. If the plants are in bloom this treatment would destroy the bloom, therefore hand cleaning should be resorted to, and

NOCTURNAL MARCH

At night when I woo
The sweet goddess of Sleep,
And I have grown weary
Of counting the sheep,
My spirits are soothed
By soft shades of green
As beautiful trees
Troop into the scene.

The stately staid Hemlocks
With arms poised in space
Charm with their rhythm
Of beauty and grace—
And Cedars of Incense
With branches of lace
Lull with their perfume
And glide into space—

The famed Torrey Pines
Come striding along
Bowing and sighing
And moaning their song—
While tall Eucalyptus
With willow line
And flickering shadows
Follow the Pine—

Gleaming through darkness
Like stars in the night
The Dogwood appears
With its blossoms of white—
And sturdy Live Oaks
So calm and so strong
Give strength and repose
While marching along.

As these friendly trees
Move onward in rows,
My wavering eye-lids
Grow drowsy and close.
And I try in vain
To recall each tree,
But the land of fair dreams
Has at last conquered me.

Katherine V. Lewis,
La Jolla, California

with blooming potted plants particularly. Of the available spray materials a pyrethrum spray is probably the safest to use, but bear in mind that most pelargoniums are sensitive to spray injury. A tiny worm often attacks pelargoniums, destroying the bloom buds and sometimes boring into the stems. Still another worm pest attacks the leaves, a cryolite dust applied lightly being effective as an insecticide against these worms. Avoid wetting the foliage and particularly the blooms of pelargoniums, as under growing conditions of high relative humidity a blossom blight often attacks the blooms and after these diseased blooms fall on the foliage the foliage may become diseased as well. This is a disease known as Botrytis blight. Hand picking diseased flowers and leaves, together with care in avoiding wetting the tops, will usually affect some control.

In the selection of varieties the type of foliage and habit of growth should be carefully considered as some varieties naturally grow straggly while others are compact growers. Some have attractive foliage, others have foliage that detracts from the general appearance of the plants. These points are particularly important with potted plants. A selected list of some of the better varieties, with a brief description of color and habit of growth follows:

Mrs. Mary Bard—Snow white, purple feathering in center. Attractive foliage, strong growth. Inclined to sprawl unless pinched in well during early development.

Onkel Richter — Nearly pure white. Two dark eyes on upper petals. Ruffled flowers. Very dwarf compact grower. Good foliage.

Frau Krump—White with dark eyes. Medium grower, good foliage.

Springtime—Bright pink, white throat, ruffled. Medium compact growth. Attractive and ample foliage.

Gardeners Joy—Large crimped white flowers, dark red markings on every petal. Medium growth; attractive foliage.

Freulingszauber — White with pink tinge, red blotches on upper

petals. Ruffled flowers. Compact grower.

Edith North—Deep salmon pink. Darker blotches on upper petals. Strong upright grower, but shapely plant. Very attractive foliage. Strongly recommended for pot plants. Free bloomer.

Orchid Edith North—Sport of Edith North. Identical except for color, which is an orchid pink with deeper color in upper petals.

Sue Jarrett—Dark pink, shading to salmon. Very large blooms. Continuous bloomer. Attractive foliage. Compact growth.

Marie Vogel—Red shaded with salmon. Large flower trusses. Very free bloomer, attractive foliage. Strong grower, but well formed plants in open ground. Strongly recommended for borders or bedding plants.

Azalea—Very similar to Marie Vogel but rosy red without salmon shadings. Strong grower. Good foliage.

Grossmama Fischer—Pick clear salmon with dark blotches. Very ruffled. Fades in hot sun. Unusual color and extremely beautiful. Compact grower. Good foliage.

Mrs. F. Bachler—Deep rose red, dark markings and lines. Good foliage. Strong grower. Free bloomer.

Santa Monica—La France pink, carmine eyes or blotches. Very attractive. Large flowers.

Pauline Schrocter—Similar to Springtime but deeper pink with dark eyes. Ruffled flower. Medium grower.

Mrs. Loyal—Pansy geranium. Lavender with dark purplish black eyes. Small flowers. Free bloomer but not continuous. Medium to dwarf growth. Splendid pot plant.

Glady Kellogg—Glowing bright red shading to dark red on upper petals, white eye. Very bright and attractive. Medium upright growth.

Whittsets Pride—Very dark maroon. Very large flowers. Medium growth. Novel color for collection.

May Queen—Orchid with maroon upper petals. Strong grower. Good foliage.

Princess—Lavender pink. Dwarf grower. Long flowering period.

Bird Parade—The Oriole . . .

By FRANK FORREST GANDER

Here is winged sunlight in my garden; a flash of color to denote the turn of the season.

When loquats are ripe and March winds cause my tall blue gums to sweep grandly back and forth, then my ears are attuned to catch a bird note from those swaying tops—a note which I have not heard since the preceding August. And always, about the middle of March, I am rewarded. The call note of the Arizona Hooded Oriole for which I listen is scarcely musical, yet it is sweet to my ears for it tells me that the summer birds are returning, that spring is really here. And the bird that gives the call is well fitted to be herald of a warmer season, a bird dressed in the golden yellow of summer sunlight and the black of summer nights. Like a gaudy blossom he seems as he sways on a branch of the eucalyptus, or like a living sunbeam as he drops down to my loquat tree to feast on its golden fruit.

For several years, now, he has been returning to me, and heartily I welcome him. The very first spring that my blue gums could be dignified with the name of trees, he established himself in my yard—a young male in the dull livery of his first year, scarcely brighter than the greenish yellow female who later joined him. Each year he has returned brighter than the year before, and now he is scarcely less resplendent than the orange and black Bullock Orioles who join him at the loquat banquet table in late March. These last named birds tarry but a short time with me and then hurry on north and inland to their nesting territories.

In April, when the female appears, nest building begins. The male does little but trail along after his industrious mate, chattering and whistling, and occasionally warbling a subdued bit. A cunning hammock of palm fiber the female weaves in some pendant clump of eucalyptus branches, and

in a surprisingly short time after nest building has ceased, one can hear the noisy babies crying for food. The food provided them by the parent birds is chiefly insects, including such noxious creatures as aphids and scale insects, cutworms and other caterpillars, flies, ants, and many others.

The adult birds vary their insect fare with a little fruit, and they are very fond of the nectar of flowers. In company with many other birds, they sip from the honey-cups of the blue gums, and they will split the sides of tubular flowers in order to reach the nectarines at their bases. Small pay is this for the good work that they do—a little fruit and a few spoiled flowers for thousands of injurious insects destroyed. Birds take most of the loquats in the top of my tree, but such fruit is difficult to reach, anyway, and gladly would I let the oriole have them all in exchange for the pleasure of his presence in my yard. May he return to me many years, and may his demure wife swing many cradles in my trees, and if there are times when I hear a strange voice crying in their home and know they are raising a baby cowbird, why that makes their lives all the more interesting.

APRIL MEETING

At the regular meeting of the S. D. F. A., Mrs. Mary A. Greer, president, paid a fitting tribute to the memory of the late Miss Kate Sessions in a few well-chosen words telling of the loss which the membership of our association and the city of San Diego had sustained in the passing away of such a highly respected and greatly loved character. The audience stood for one minute in silent respect to the honor of her memory.

Miss Olive Stimson, a graduate in landscape architecture from the University of Illinois and a com-

(Continued on page 8)

COMPLICATIONS and COMMENT

*Call this chitter, but not tattle—call it it gossip, call it prattle—
But whate'er may be its name, call it fun—
This garden game!*

CLEAN POOLS

If you want snails to help out in the matter of clear water in the lily pool, get three or four individuals of the Japanese species. In a short time the families will be without number and the tiny babies will be most interesting to those who are at all observant of nature. They come into the world with their houses already covering them. The African type and the Ramshorn, both the black and the red, bring forth eggs—enormous quantities. When these types become too populous, they eat holes in the lily pads, while the Japanese kind are more thoughtful of the looks and condition of your leaves.—B. M. T.

HEDGES, SCREENS, WINDBREAKS

A book of unusual penetration into the subject, as outlined above has come to the editor's table. It did not come for review, but since it merits more than passing attention, he wishes to touch it lightly here. Dr. Donald Wyman, horticulturist of that marvelous institution, the Arnold Arboretum, has gone deeply into these matters and has come out with a masterly treatment. Any person in any part of the country who contemplates any planting within the meaning of the title will profit exceedingly in its reading, and that for two outstanding reasons. First: here is a man who writes from Boston and realizes that one doesn't necessarily use the same materials he knows there, in other climates and moreover, does something about it. He plants to a map which is zoned so that the planter knows what he is about. You in Southern California, as an instance, will be given special recommendations as will be the person in Canada. Next: the subject matter in its generalities and in specific parts has been gone into with all thoroughness. After

studying this book the planter may know he has had access to the known and accepted information on the planting, spacing, trimming, shaping and ultimate care of his project. When one thinks of the time and expense and fond wishes that go into a hedge, it should be realized that the operations might best be thought out in advance.—R.S.H.

Bend An Ear

Fred C. Silverthorn & Sons, Inc., on Market at Fifteenth are continuing their fifty year policy of encouraging local gardening by up-to-date methods. Gardening by radio proving one of the latest means, they are now sponsoring that fifteen minute radio program, "Over the Garden Gate," KGB on Friday morning at 10:15.

True to their principles, the program is "grown in San Diego"—by one Miss Ada Perry who has spent fifteen years poking into gardening here and bringing up paragraphs about flowers. For the last three years she's purveyed these paragraphs by microphonic means and their decision to sponsor them encouraged something else besides gardening. Luckily for her, this San Diego firm can nonchalantly back up any amount of enthusiasm. She does complain that their gardening supplies, like San Diego flowers, give her too many interesting things to talk about. Staff members got a chuckle one afternoon when a strange lady came in and observed, "I never knew you were down here before . . . I like your radio program . . . and that woman on it doesn't make me tired!" Miss Perry has since humbly adopted a radio policy for fifty years, "Don't make people tired!"—A. H.

If poison baits don't get all the slugs, they can be scooped up with a teaspoon quite neatly.

IRIS THRIP CONTROL

Iris culture in Southern California is an established fact, in spite of the pessimistic prophecy of only fifteen years ago. With new stock coming into the area and even with rigid inspection, diseases will creep in that must be caught early.

Cooperation between the Brooklyn Botanic Garden and the Federal Bureau of Entomology and Plant Quarantine has resulted in discovery of methods of spraying that give practical control of thrips injury to iris in field and garden plantings. Nicotine and derris sprays used at weekly intervals before and after the blooming period may not completely eradicate the thrips pest, but they prevent injury to the foliage and flowers of infested iris.

The iris thrips is believed to be an imported pest and was first observed in 1931. It has been reported from 13 states and is probably present in others. Iris species and varieties differ in their response to the thrips. Japanese iris are the only group on which serious injury to the blossoms has been observed, but in many varieties the thrips injures the foliage and prevents thrifty growth and free flowering. Thrips may cause either a russetting or sootlike blackening of the foliage. In the Japanese iris the thrips cause a flecking of the petals or they may cause imperfect opening of the bud which appears bloated.

Floyd F. Smith of the Federal bureau and L. Gordon Utter of the Brooklyn Botanic Gardens started investigation of thrips control in 1933 and devised a hot water treatment for iris planting stock which is effective in eradicating the thrips, but can be used only when the planting stock is out of the ground. Tests of various spray mixtures that have been used against the gladiolus thrips showed that these are not effective against the iris thrips. Quick burning over of iris foliage failed to control the thrips.

After testing a wide variety of sprays Smith and Utter have been successful in field and garden control of the thrips by using poisons

and spreaders in the following proportions to make 100 gallons of spray: (1) either 2.2 or 4.4 pounds of derris powder with either 1 quart of sulfonated castor oil or 0.8 pint of sodium oleyl sulphate sticker; (2) 3 pints of nicotine sulphate solution with either 0.8 pint of sodium oleyl sulphate sticker or 4 pounds of soap flakes.

Excellent control that approached eradication resulted from eight weekly sprayings—four before and four after the blooming period. Gardeners growing a limited number of iris would probably find the nicotine sulphate and soap spray most readily available, says Mr. Smith. These materials are commonly combined in sprays for control of aphids or plant lice affecting several garden plants. To make 2 gallons of spray use 2 teaspoonfuls of the 40 percent nicotine sulphate and 4 tablespoonfuls of soap chips. In spraying, the foliage should be thoroughly covered, with particular attention to the base of the fan of leaves. The thrips live principally between the leaves at the base of the fan and are rarely found elsewhere on the plants.

U. S. D. A.

Washington, D. C.

\$1,000 PRIZE GARDEN BOOK COMPETITION

The Macmillan Company announces a competition for the best garden book manuscript by an author who has not published a garden book previously. The award will be \$1,000.00; \$500.00 of which will be an outright payment, and \$500.00 on advance against royalties.

The competition will close November 30, 1940, and the award will be announced January 2, 1941. The final judges of the contest will be Carol Fleming, Channel Bookshop, New York City; Elizabeth Hall, Librarian, New York Botanical Garden; and H. S. Latham, Vice President and Editor of The Macmillan Company.

Brochures giving the conditions of the contest, together with entry blanks, may be secured from Prize Garden Book Competition, The Macmillan Company, 60 Fifth Avenue, New York.

Gleanings From the Magazines

By Ida Louise Bryant

HOUSE AND GARDEN for June has an expert giving the *modus operandi* for growing plants in nutrient solutions, with special attention paid to the findings of Dr. Gericke, the Californian who pioneered in this work back in 1929. The science of hydroponics undoubtedly holds great possibilities for the future but one would think it of much greater interest in the East, where indoor gardening is necessary so much more of the year than it is out here. The writer speaks of seedlings (and this is for amateurs) . . . started in sand by the "slop method" moving into the garden in better shape than those newly purchased from professional growers. Now if one could only pest-proof them, too, gardening WOULD be simple.

GOLDEN GARDENS, an "All-California Garden Magazine" is the publication of California Garden Clubs, Inc.; published in Beverly Hills, and new to this reviewer. An article on *Alstroemerias*, lily-like perennials, points out their beauty and ease of cultivation, and we wonder, with the author, why they are not more commonly grown. He highly recommends six varieties that are obtainable commercially, and speaks of the huge clumps of bloom they produce, "four feet high and many feet across, growing hundreds of flower stems"—no, I'm not quoting from a catalogue. Wouldn't you like to see a few clumps of these in a prominent corner in Balboa Park, or in the Plaza Park? But we couldn't have them in the Plaza, because they could never be gotten into those chicken-wire cages that the pansies and marigolds grow in, there.

SUBTROPICAL GARDENING, from Florida, in its Gardener's Bookshelf, has a review of Mr. Roland Hoyt's book, "Ornamental Plants of Subtropical Regions," and calls it the most important book on plant materials so far produced

in this area. "By this area" is meant the region south of a line drawn through Charleston, Baton Rouge, El Paso, Phoenix and San Francisco. The reviewer says that no one who expects to make a serious study of this field can afford not to have it. That is high praise, and those of us who couldn't get along without the little book, especially in conjunction with catalogues, deem it well deserved.

IN BETTER HOMES AND GARDENS for June, the gardening housewife turns eagerly to "Grow This Cutflower That Keeps Two Weeks," to find it the China Aster. Will someone who knows please come forward and explain to perhaps the only person in the world who doesn't know, just what China Asters are, and why no two growers list asters in the same way? This author includes Grego, Giants of California, and Queen of the Market varieties. Mr. Hoyt's book lists them as "Callistephus chinensis," (China aster) apart from the Starwort or fall-flowering kind. The phrase found in the growing lists, "practically wilt-resistant" fills us with foreboding, but this writer makes successful growing sound quite simple. He stresses setting them out early and bringing them to flower as quickly as possible; and asserts that seeds sown in early June will provide plenty of late autumn bloom.

HOUSE BEAUTIFUL for June has a professional sounding article called "Short Cuts to More Plants" that gives detailed directions, illustrated, for making the different types of cuttings, the sort of thing we amateurs can't hear too often; with so many of us, the trial and error method is still the most used one.

IN COUNTRY GENTLEMAN for May we give a sympathetic eye to "Garden Mistakes" by an eminent gardener, Mr. J. Horace McFarland. He lists among his own: having a wall put up by a cheap mason who used poor mortar—result, a bulging wall and then a collapsed one; after that, too solid and cementy a wall, instead of an open one with chinks where an occasional rock plant might get its roots in, so mortar must needs be

picked out in spots to make little pockets for soil. He speaks of his perennial lily troubles, one year of bloom and nothing more, so they were virtually an annual crop. He advises growing from seed, especially *Regal*, *Formosanum*, and *Tenuifolium*, and says that he found bulbs so grown immune to the common lily disease, mosaic. (Growing lilies from seed was one of our Miss Session's recipes for good bloom and a feeling of accomplishment). On advice of Mr. Bok, he experimented with pure color beds, each color by itself, finally proving to his satisfaction that there was no pleasure in lack of contrast and of random color relations; because there is no pure color in nature.

In GARDENER'S CHRONICLE for May, "The Camera and The Flower" delineates the correct photographic technique for flower and garden pictures. Problems of the narrow border are discussed in an article by that name by a New Jersey gardener, and from a Maryland gardener one called: "Blue Softens the Garden Scene."

HOLLAND'S, the Texas magazine, carries in its June number an article on Daintiness in the Garden; the writer speaks truthfully of *Zinnia linearis* as being the only zinnia belonging in that description of garden. A real omission, it seems to us, is that of *primula malacoides* with its fragile blossoms waving on slender stems, it is fairy-like and delicate. But perhaps it won't grow in Texas?

SUNSET for May has brought together six experts on Begonia culture, with our Mr. Robinson acting as chairman of an imaginary Round Table. If an ordinary gardener could achieve such miracles in beauty and perfection as the Rosecroft Gardens produce, merely by following directions—but one wouldn't, and one couldn't!

FLOWERS REPRESENT SEASONS

The four seasons of the year in China are represented by flowers. The tree peony represents spring; the lotus, summer; the chrysanthemum, autumn, and the plum, winter.

Problems of the Soil

By R. R. McLEAN, County Agricultural Commissioner

Grubs In Lawn

Question: For two summers I have been troubled with my bluegrass lawn turning yellow and dying in round spots about 8 inches across, and in rings (like ringworm) about 18 inches or larger, across. A lawn specialist laid it to white-gray grubs with orange colored heads which measure about 2 inches long, commonly called cut-worms. These were found in numbers under the spots but also in other places not affected. They sprinkled the lawns with some lead preparation mixed with sand. This reduced the number of the grubs and as in other years the spots died out and had to be re-seeded next season. The expert said these grubs were hatched from eggs of the June bug and could not be prevented. Can you suggest any relief?—P. H.

Answer: The grubs usually associated with injury to grass are rather large and stocky and when taken out of the soil are curled up. It is true that they are larvae of one of the June beetle tribe, the eggs of which are laid in the grass or in the soil. From the egg stage they hatch into the grub or larvae stage and begin working into the soil around the roots of plants or grasses and begin their development. Inasmuch as the eggs may stay in the ground for some time before hatching, one poisoning with lead arsenate will not operate as complete control. The fact that, as you state, grubs are found around the roots of the dead patches, indicates that they are actually responsible for the damage. The grass not now affected but under which you can also find worms or grubs, probably will die out later when they have worked a little longer.

The treatment given your lawn was undoubtedly what is known as "grub proofing," in the process of which lead arsenate is worked into the soil, a little at a time, until enough poison is at the roots of the grass to kill the grubs. No great

amount of poison can be put on at one time, else the grass will be killed, but applied a little at a time no serious injury results.

The only alternative the writer would recommend is to treat the dead spots and margins with carbon bisulphide, injecting it into the lawn not more than two inches deep. It will kill the grass some little distance from the margins, but if the grubs are there, the grass will die sooner or later, anyhow. Carbon bisulphide will kill both eggs and larvae and areas treated with it can be re-seeded within a week after using. The grubs usually are more active near the margins of the dead spots or rings, hence the necessity of treating them with the chemical. If treatment is persisted, the grubs will finally be eliminated entirely.

Snail Poison

Question: Will a solution of sodium arsenite, water and bran spread around flower plants and on lawns kill the common variety of snail which we have here? Will you please give me the proportions used?—C. S. M.

Answer: Sodium arsenite and bran is even more effective against snails than is the bran-calcium arsenate combination. This same poison is very effective, also, in large scale operations against grasshoppers. In practice it has been found that one ounce (liquid measure) of sodium arsenite will poison about three pounds of bran. The arsenite is added to water first, allowing about three pints of water to three pounds of bran and the whole mixed together to form a crumbly, not wet, mash. You may have to increase or decrease the amount of water slightly from the amount stated. Sodium arsenite will probably burn foliage, so it should not be used directly on the plants or on the lawn. If it is used on the ground under plants, and is well scattered, there will be less opportunity for birds to get hold of it.

Plants for Adobe Soil

Question: Our soil is adobe and drainage is so poor that after the hard rains my shrubs all die. What is the best method of taking care of this, and what shrubs grow best in such soil?—Mrs. J. H. C. B.

Answer: The improvement of adobe soil is not an easy matter. Such a soil can be benefitted to some extent by digging in lime and organic matter. The latter can be in the form of straw manures, old bean or alfalfa straw, weeds, litter from chicken runs, trash, etc. Sometimes gypsum can be used in the place of lime. Every possible resource should be used to secure drainage. Extreme care in irrigating is necessary so as not to have water stand around the plant roots. Perhaps smaller amounts of water at more frequent intervals will help solve this problem. However, when we have considerable wet winter weather, this factor is out of your control. Excess water damage can be lessened by filling the soil with organic matter, as previously indicated.

There are a number of shrubs that seem to do quite well in heavy soil, such as various species of daphne, hibiscus, viburnum, pittosporum and berberis as well as *Abelia grandiflora*, *Fatsia japonica*, *Jacobinia pauciflora*, *Photinia arbutifolia* (California holly or toyon) and spirea species. Fortunately, there are a number of smaller plants you can use in such soils, such as dianthus, *Dahlia rosea*, chrysanthemums and veronica repens. The more shallow rooted plants, of course, will be less apt to be affected by poor drainage if care is used in irrigating.

Palms for Parkways

Question: Do you know of any tree that can be planted in the parkway and that will not break up the sidewalk? I have tried several but sooner or later they heave up the cement.—O. R. E.

Answer: Where the soil is shallow with hardpan near the surface, as is the cause in many sections of San Diego, palms only should be planted. Palm roots are numerous and quite fine and spread out on

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The Ministration of Beauty . . .

By BYROL CARTER

To those of us who are so fortunate to live in homes that are set amid the beauties of a California Garden or even enjoy the inspiration of a small patio garden-spot we dwell, 'tho perhaps unconsciously, in an atmosphere of healing potentialities unknown to those less fortunate. We also grow in appreciation of beauty and perfection of form and color that gives us rare pleasure in our annual flower shows and we may be devoutly thankful for this understanding. But what of the many whose life setting is less fortunate with its bearing on the future of civilization and to whom the ministry of flowers is perhaps a thing most needful in their lives both to heal for the present and to teach toward a better concept of what that civilization might be. Children whose hearts respond to the call of the flowers should have this need met as fully as we seek to meet their physical requirements by the necessary substance for living and herein lies the great opportunity for all flower lovers and growers to contribute in a big way to the finer needs of the youth of today. No one can look into the eyes of a child and fail to see the inner seeking for this spiritual food that perhaps they are better prepared to assimilate than are the adult minds.

Several years ago a nurse accompanied a physician into the poorest district of our city to minister to a little boy who had been severely burned by his single bunch of Fourth-of-July fire crackers. He was a quiet, thoughtful child and alone in an atmosphere of ignorance and dishonesty. There was not one beautiful, harmonious thing in his life. The nurse went for days to dress his burns and later when he was able to find his way alone he came to the office for care until he was healed and the fact of that healing was all of the compensation expected or possible. Six months elapsed and one

day in the hall outside the office door voices attracted her attention, for one voice was small and pleading and the words were punctuated with deep sobs. Opening the door the nurse saw her little friend begging the elevator operator to allow him to leave the elevator into which he had slipped unnoticed with a crowd. Dirty, barefoot and clad only in a single pair of faded blue overalls, he held tenderly in his hand half a dozen Sweet Sultans that he had found among the trash cans and he was bringing this prize to express his gratitude for the care that he had received.

He had searched long for some way to do this and the flowers had met his need.

Children, like gardens, blossom into beauty when given care, and beauty to each one is his measure of soul perception. Perhaps the central purpose, to be the education of a new world consciousness is to perceive beauty, truth and love. If so, certainly our gardens can produce great educators who will teach quietly and efficiently the future men and women that hold the destiny of our world in their hands.

May we not double our efforts in our gardens that the ministry of flowers may be wider spread and free to all who are ready to receive their teaching? And may we not work more consciously and effectively in our ever growing flower shows to the end that they may bring to all who need and can appreciate the great benefits to mind and soul and body.

MAY MEETING

At the monthly May meeting of the San Diego Floral Association Mrs. Mary A. Greer, president, presiding, was happy to report that the Spring Flower Show was one most worthy for San Diego to be proud of; and of the excellent results of the show, financially, as the exchequer is a support for the

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Playing With Plant Hormones

By A. H. FETTERS

The amateur gardener who presumes to stray from the beaten paths of everyday gardening may now satisfy this quite normal, if disturbing desire with a little personal experimentation on the artificial stimulation of root growth in connection with cuttings. It is a fascinating subject and the results will pay for the slightly additional equipment required and the work involved.

It has but recently been discovered that plants, as well as animals, manufacture and need for their vital processes these mysterious substances called hormones. They have actually been isolated, analyzed and classified in plant growth, and this despite the fact that they may comprise so minute an amount as one billionth part of a plant's substance. They are an essential requisite to plant life. Imagine the skill and patience necessary to lay successful siege to these invisibles in nature and develop such marvelous results.

These hormones have been found to be the deciding factor in initiating root growth, especially with cuttings. Once started, it appears that other factors govern the rapidity and amount of root growth. There is a mistaken impression in the minds of some who have used the vitamin B₁, that this substance will start root growth, as with cuttings, whereas its real function is to stimulate growth after roots have been formed.

Now that we have straightened that out, let us see what we can do with the hormones or auxins in the propagation of some of our favorite shrubs such as gardenia, camellia, hibiscus or bougainvillea that are usually so difficult to strike root. We can be rather sure of good results with the hormone treatment. Though not essential for success, I would recommend that you construct a propagation box, as this will insure a strike where open slipping in pots or flats will often fail, due to difficulty in control of con-

ditions favorable to rooting.

This box should be of any convenient size, twelve by eighteen, inches up to two square feet. The sides should be all of six inches high to support a cover of glass. Fill the box only half full, or three inches, of your favorite soil mixture for cuttings. Alfred Hottes recommends clean, fairly coarse sand, as it is free of organic matter that might cause trouble. Have this sand thoroughly wet before the cuttings are set and keep it quite moist at all times.

The glass cover conserves moisture in the soil and keeps the air moist about the leaves of the cutting which is very important. It should be raised slightly in daytime to provide necessary ventilation, but may be closed down at night. Keep in the shade or well-filtered sunlight.

The material I use comes from the Plant Research Laboratory, 251 South Catalina, Pasadena, Calif. It is packed in capsules, either fifty cent or dollar size and is sold as Indole Acetic Acid. Full directions for its use are included in each package. A very good book on the subject of plant propagation is "Plant Propagation" by Alfred C. Hottes.

In general, now, plant cuttings which are placed with their bases in a very dilute solution of this chemical for a short time, in accordance with directions, are found to develop roots much more rapidly than when not treated. The percentage of cuttings rooted and the number of roots formed are increased considerably. You will find it interesting to check these claims by treating half of your cuttings and compare results with the other half which has not been treated.

—A. H. Feters.

Problems

(Continued from page 7)

top of the hardpan without heaving the sidewalks. Pepper and eu-

calyptus trees are notorious for breaking sidewalks although if planted in deep soil, their roots will not often make trouble unless moisture and plant food are near the ground surface. There are some exceptions, of course, but generally speaking palms of some sort are best suited for our relatively narrow parkway plantings.

April Meeting

(Continued from page 3)

paratively new arrival in the city of San Diego, spoke on "Color in the Garden," stating that as a general rule one should follow one's own taste in color and that in mass planting one should avoid "spottiness." She said we should give thought and consideration to the combination of the many different greens to obtain proper perspective, placing bright colors in the foreground, darker shades in the background and vice versa. The speaker told of the many varied effects of "color in the garden" that may be brought out along

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garden walks and terraces by the choice of materials for making walls, in the use of stones, of colored bitumastic, of soft shades of brick and tile. This is also true in the choice of canvasses and of garden furniture, of pottery and statuary. Also that in the lighting of these varied effects at night time it is better as a rule for the electric fixtures to be placed low in shrubbery rather than high up in the trees. Birds may be attracted by the use of colors. Miss Stimson pleased her audience by her easy flow of language and presented her subject with charm and distinction.—A. J. M.

May Meeting

(Continued from page 7)

California Magazine.

A new feature of the association will be the "Geranium Show" which will be held June 1 and 2 in the

Floral Building, Balboa Park. There will be awards given, and Mrs. Greer made an urgent appeal for members and friends to contribute as much as possible.

"Ornamental Plants for Subtropical Regions is the title of a book recently completed by Roland S. Hoyt, editor of California Garden, was recommended as a ready reference for planting problems by Mrs. Greer.

Mr. and Mrs. Emerson Cooper, 4519 Kensington Drive, San Diego, extended an invitation to all persons interested to visit their beautiful garden, June 28 and 29.

Mr. Silas Osborn, a California horticultural inspector, was the speaker of the evening. In his efficient manner, Mr. Osborn handled the subject with most deserving credit, and all persons in attendance were left with a proper "Geranium" minded spirit. An article by Mr. Osborn which deals with "Geraniums" is given in this issue of the California Garden.—G.M.G.

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